

Amendments to the Specification

In the Specification:

Please amend the paragraph beginning on page 1, line 20 and continuing to page 2, with the following amended paragraph:

As shown in Fig. 1, this optical recording/reproducing apparatus includes a digital recording signal processing unit 30a for adding an error correction code (ECC) to input digital data, thereby converting the input digital data into a recording format, a channel bit encoder unit 40 for re-converting the data, converted into the recording format, into a bit stream, an optical driver unit 50 for outputting a light amount drive signal, an optical pick-up unit 11 for recording a desired signal onto an optical recording medium 10 in accordance with the light amount drive signal, and detecting a recording signal from the optical recording medium 10, and a drive unit 80 for driving the optical pick-up unit 11 and a motor M. The optical recording/reproducing apparatus further includes an R/F unit 60 for filtering a signal detected by the optical pick-up unit 11, conducting a waveform shaping for the filtered signal, and converting the resultant signal into a binary signal, a ~~serve~~ servo unit 70 for controlling the driving of the drive unit 80, based on signals indicative of tracking errors and focusing errors generated in the optical pick-up unit 11, along with the rotating speed of the optical recording medium 10, a digital reproduced signal processing unit 30b for recovering the binary signal into original data at a clock synchronizing with the binary signal, and a microcomputer 100 for controlling the recording/reproducing procedure.

Please amend the paragraph beginning on page 3, line 14, and continuing to page 4, with the following amended paragraph:

The microcomputer 100 then applies an adjustment signal to the optical driver unit 50 in a variable fashion. The adjustment signal is adapted to vary an optical power with reference to the read target recording power value, for example, 8 mW. Fig. 3 illustrates a variation in optical power with reference to a target recording power value. The optical driver unit 50 outputs a recording signal for test data at an optical drive power corresponding to the adjustment signal. In accordance with the recording signal, the optical pick-up unit 11 records test data onto a test recording area of the optical recording medium 10. Fig. 4 illustrates a recording signal test area A in a re-writable optical recording medium (CD-RW), along with a count area B for recording the number of test times, e.g., the number of times that the test data is recorded in the test area A.

Please amend the paragraph beginning on page 5, line 24, and continuing to page 5, with the following amended paragraph:

That is, According to the proposal the microcomputer 100, which is a microcomputer internally equipped with a memory, is configured to detect an optimum recording power value based on the recording and reproduction characteristics of test data, as mentioned above, and to record the detected optimum recording power value onto a designated particular area of an optical recording medium 10, along with an intrinsic recorder identification code for the optical recording/reproducing apparatus previously stored in the memory, that is, information for identifying the optical recording/reproducing apparatus, in order to reserve those information.

Please amend the paragraph beginning on page 6, line 10, with the following amended paragraph:

When an optical recording medium 10 is subsequently inserted into the recording/reproducing apparatus for recording of data, the microcomputer 100 reads out an optimum recording power value and an intrinsic recorder identification code from a particular area of [[an]] the optical recording medium 10.

Please amend the paragraph beginning on page 7, line 17, and continuing to page 8, with the following amended paragraph:

Meanwhile, where recording of data is repeated on a re-writable recording medium in an overwrite fashion, there may be a degradation at side portions of recording marks subjected to an image variation. As a result, a degradation in data recording characteristics may occur. In particular, when the recording apparatus overwrites data at a recording power level lower than that used upon in the previous data recording, the degradation in data recording characteristics becomes more severe, thereby resulting in increased errors in reproduced signals. Fig. 8 illustrates a relation of the amount of jitters involved in recorded data with respect to the number of data overwrite times. Also, Fig. 9 illustrates a degradation in reproduction characteristics varying depending on a variation in recording power between successive recording procedures.

Please amend the paragraph beginning on page 10, line 5, with the following amended paragraph:

In accordance with one aspect, the present invention provides an optimal recording method for optical recording media comprising: a recording condition detecting step of when data is to be overwritten on an optical recording medium previously recorded with data at a desired area thereof, detecting a recording condition used in the previous data

recording; and an overwrite condition setting step of setting a condition for overwriting the data, to be overwritten, based on the detected recoding recording condition.

Please amend the paragraph beginning on page 12, line 24, and continuing to page 13, with the following amended paragraph:

Fig. 13 is a table illustrating various optimum power values for optical recording/reproducing apparatuses of different types respectively according to the present invention;

Please amend the paragraph beginning on page 13, line 2, with the following amended paragraph:

Fig. 14 is a diagram illustrating respective formats of TOC information and optimum recording condition information recorded on the lead-in area of the optical recording medium according to the present invention; and

Please amend the paragraph beginning on page 13, line 6, with the following amended paragraph:

Fig. 15 is a diagram illustrating respective lead-in areas of sessions in an optical recording medium according to the present invention, each lead-in area being recorded with optimum recording condition information.

Please amend the paragraph beginning on page 13, line 12, and continuing to page 14, with the following amended paragraph:

The optical recording/reproducing apparatus illustrated in Fig. 1

may be used to implement the optimal recording method for optical recording media in accordance with the present invention. The optimal recording method of the present invention ~~is characterized by according to an embodiment includes~~ additionally recording information about optimum recording conditions, detected by the execution of a procedure for detecting an optimum recording power value, on a count area B or a lead-in area of an optical recording medium 10, and subsequently determining, based on the optimum recording condition information, whether or not a procedure for detecting an optical recording power value is to be conducted. Sequential procedures of the optimal recording method according to the present invention are executed under the control of the microcomputer 100 shown in Fig. 1.

Please amend the paragraph beginning on page 15, line 25, and continuing to page 16, with the following amended paragraph:

Here, the optimum recording condition information is information adapted to determine whether or not the procedure for detecting an optimum recording power value is to be conducted for recording of data. Referring to Fig. 11, such optimum recording condition information is illustrated. As shown in Fig. 11, the optimum recording condition information ~~consists of~~ includes 42-bit data including 3-bit optimum power data indicative of the detected power value, a 12-bit RID code indicative of a recorder ID stored in a memory internally equipped in the microcomputer 100, and 4-bit record speed data indicative of the current recording speed.

Please amend the paragraph beginning on page 18, line 18, and continuing to page 19, with the following amended paragraph:

However, where it is determined at step S40 that the two recorder

ID codes are different from each other or where it is determined at step S50 that the two ~~recode~~ record speeds are different from each other, the control procedure of the microcomputer 100 proceeds to step S32. At step 32, the microcomputer 100 executes the above mentioned optimum power value detecting procedure. Following step S32, the microcomputer 100 executes procedures for generating and recording information about optimum recording conditions (Steps S33 and S34).

Please amend the paragraph beginning on page 19, line 2, with the following amended paragraph:

Here, the case, in which there is a difference between the optical recording medium 10 and the optical recording/reproducing apparatus in terms of the recorder ID code or the ~~recode~~ record speed information, corresponds to the case in which there is no occasion that the optical recording medium has been recorded with data, using the optical recording/reproducing apparatus.

Please amend the paragraph beginning on page 19, line 9, with the following amended paragraph:

This case may also correspond to the case in which the optimum recording condition information written on the optical recording medium 10 has been updated or deleted, on the basis of a determination for the optimum recording condition information to be ~~useful~~ no longer useful.

Please amend the paragraph beginning on page 21, line 16, and continuing to page 22, with the following amended paragraph:

Where the above mentioned procedure is carried out in this case,

overwriting of data is conducted at a highest power value, that is, the power value of 9.5 [[mV]] mW associated with the optical recording/reproducing apparatus C. When data is recorded using the optical recording/reproducing apparatus B under the condition in which the optimum recording condition information of Fig. 13 is still maintained, a degradation in reproduction characteristics may occur because the power value of 8 [[mV]] mW less than the power value used in the previous data recording is used. In order to avoid this problem, the recording condition information written on the count area of the recording medium is completely deleted.

Please amend the paragraph beginning on page 23, line 22, and continuing to page 24, with the following amended paragraph:

For example, if the detected optimum recording power value is 10 mW which is different from that of the present optical recording/reproducing apparatus A, this optical recording/reproducing apparatus A does not record data at the detected power value of 10 mV. In this case, the optical recording/reproducing apparatus A derives an optimum recording power value for the optical recording/reproducing apparatus A corresponding to the detected optimum recording power value of 10 mW. Where data is recorded on an optical recording medium using an optical recording/reproducing apparatus at an optimum recording power value detected by another optical recording/reproducing apparatus, the recording of data may be practically carried out at a power value more or less than the optimum recording power value used for the optical recording medium because respective optical driver units of those optical recording/reproducing apparatuses may have different offset values. In order to avoid such a situation, an optimum recording power value is derived based on the detected optimum recording power value, as mentioned above.